



MICROCHIP

**INICkit
User's Guide**

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NOTES:

Preface

NOTICE TO CUSTOMERS

All documentation becomes dated, and this manual is no exception. Microchip tools and documentation are constantly evolving to meet customer needs, so some actual dialogs and/or tool descriptions may differ from those in this document. Please refer to our web site (www.microchip.com) to obtain the latest documentation available.

Documents are identified with a “DS” number. This number is located on the bottom of each page, in front of the page number. The numbering convention for the DS number is “DSXXXXA”, where “XXXX” is the document number and “A” is the revision level of the document.

INTRODUCTION

This chapter contains general information that will be useful to know before using the INICkit. Topics discussed in this chapter include:

- [Intended Use](#)
- [Scope of Delivery](#)
- [Document Layout](#)
- [Term Definitions](#)
- [References](#)
- [Customer Support](#)
- [Document Revision History](#)

INTENDED USE

This Microchip product is intended to be used for debugging and programming INIC devices that are based on INICnet™ technology, by persons with experience in developing multimedia devices.

Note: The operation of this Microchip product is only admitted with original Microchip devices.
Do not interfere with the product's original state. Otherwise user safety, faultless operation and electromagnetic compatibility are not guaranteed.
To avoid electric shocks and short circuits use this device only in an appropriate environment.

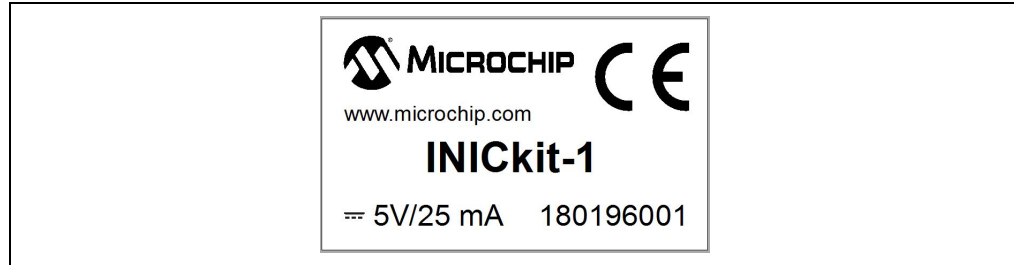
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SCOPE OF DELIVERY

The delivery includes the following parts:

- One INICKit box
- Debug/Header Connector ribbon cable
- USB Type A Plug to Micro USB Type B Plug cable

The INICKit box can be identified by the label affixed on the housing. The nine-digit number represent the part number.



Check your shipment for completeness.

If you have any complaints, direct them to your local Microchip sales and service office, listed on the last page of this document. Providing the delivery note number eases the handling.

DOCUMENT LAYOUT

This user's guide describes how to use the INICKit. The document is organized as follows:

- [Chapter 1, Introduction](#) – This chapter introduces the INICKit and explains how to bring it into operation.
- [Chapter 2, Components](#) – This chapter describes the connectors and the LEDs of the INICKit box.
- [Chapter 3, Technical Characteristics](#) – This chapter describes the thermal- and electrical characteristics of the INICKit box. It also shows the mechanical dimensions and the weight of the INICKit box.

TERM DEFINITIONS

This user's guide uses the following term definitions:

Term	Description
INIC	Intelligent Network Interface Controller
LED	Light Emitting Diode
MATM	Microchip Automotive Target Manager
UNICENS™	UNified CENTralized Softwarestack
USB	Universal Serial Bus

REFERENCES

This user's guide describes how to use the INICkit. Other useful references are listed below.

- [1] Microchip Automotive Target Manager (MATM)
- [2] UNICENS System Designer
- [3] INIC Hardware Data Sheet

To obtain the information, go to <http://www.microchip.com/support> and submit a technical support case (for details type "5951" into the search dialogue field).

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- Distributor or Representative
- Local Sales Office
- Field Application Engineer (FAE)
- Technical Support

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Technical support is available through the web site at:

<http://www.microchip.com/support>.

DOCUMENT REVISION HISTORY

Revision A (January 2019)

- Initial release of this document.

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NOTES:

Chapter 1. Introduction

1.1 OVERVIEW

The INICkit can be used to program and debug INICs that support INICnet™ technology. For this purpose, the INICkit box offers connectivity between a host application (typically running on a PC) and an INIC device. A host application in this case can be the Microchip Automotive Target Manager or the UNICENS™ System Designer for example. Connectivity to the host application is achieved through a [Micro-USB Connector](#). Access to the INIC device is available through the [Configuration/Debug Header Connector](#).

A picture of the INICkit box is shown in [Figure 1-1](#).

FIGURE 1-1: INICkit BOX



1.2 INSTALL THE MCP2221 DRIVER

Before the INICkit box can be used, the driver for the MCP2221 USB 2.0 to I²C/UART Protocol Converter needs to be installed. For this purpose, follow the steps below:

- Go to: <https://www.microchip.com/wwwproducts/en/MCP2221>
- Click the “Documents” tab and
Scroll down to the “Software” section.
- Click “MCP2200/MCP2221 Windows Driver & Installer”.
This downloads the *.zip file into the “Download” folder.
- Unzip the file.
- Open the “Driver Installation Tool” folder.
- Depending on the processor capabilities of your operating system, open the respective folder (x64 or x86 bit-system).
- Double-click “McpHcdcDriverInstallationTool.exe”
This opens the driver installation window.
- Follow the steps for driver installation.

1.3 PROGRAM THE INIC

The interface used to program the INIC is the Configuration/Debug Header Connector. The INIC can be programmed via its JTAG Port, which can be converted into a configuration interface. The setup of the necessary connections is described in the respective INIC Hardware Data Sheet [3].

Programming the INIC requires a running host application, such as the MATM. Using the MATM allows to select the INICkit box as target device.

1.4 SELECT THE INICkit BOX

Each INICkit box has a hard-coded, unique identification number that helps to identify the box; this is especially useful for setups that have more than one box in use.

The identification number is part of the "INICkit-x" designator, whereas the "x" is the unique identifier. The number can be found on the product label, as shown in section [Scope of Delivery](#).

1.5 DEBUG THE INIC

In addition to INIC programming, the Configuration/Debug Header Connector also provides debugging capabilities such as:

- Exploring internal INIC properties and states while it is operating in the target platform
- Creating an INIC data memory snapshot as file dump

Chapter 2. Components

2.1 CONNECTORS

2.1.1 Micro-USB Connector

The Micro-USB connector is used to connect to the host application and to power the INICKit box.

Type: 629105150521, MICRO USB, TYPE B, RECETPACLE, TH, from Wuerth

2.1.2 Configuration/Debug Header Connector

The Debug Header connector is used to connect the INICKit box to the INIC device.

Type: 87833-1420, 2x7 TH Header Shrouded 2.00mm Pitch RA, from Molex

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2.2 LEDS

To signal operating conditions, the INICKit box provides three LEDs, which are Power, Status and Error.

Note: The Status LED and the Error LED are controlled by the host application. Therefore, the information given in [Table 2-1](#) reflects only the condition in which the software was started and connected with the INICKit box.

TABLE 2-1: LEDS

Name	Color	Error	Description
Status	Yellow, illuminated	No	The software is connected with the interface, the INIC properly configured and ready to communicate with the software.
	Yellow, blinking	No	The software is sending short commands to the INIC.
Error	Red, illuminated	Yes	The software was not able to communicate or bring INIC into configuration/diagnosis mode. Possible reasons: <ul style="list-style-type: none">• The Configuration/Debug Header Connector cable is not connected, defective or improperly connected with the INIC device• The INIC is not properly powered or improperly connected to the I²C interface
Status and Error together ¹	Blinking	No	The software communicates with the INIC to prepare it for receiving configuration/diagnosis commands. This usually happens every time when it is tried to connect to the INIC after a reset.
Power	Green, illuminated	No	The INICKit box is powered.

Note 1: Blinking Status and Error LEDs indicate that INIC programming is started and in progress. Therefore, do not power off the INIC device and do not stop the host application.

Chapter 3. Technical Characteristics

3.1 THERMAL CHARACTERISTICS

Parameter	Value	Unit
Ambient Temperature Range	0-60	°C

3.2 ELECTRICAL CHARACTERISTICS

Parameter	Min.	Typ.	Max.	Unit
Power In Voltage	4.75	5	5.25	V
Supply Current	7	15	25	mA

3.3 MECHANICAL DIMENSIONS AND WEIGHT

Parameter	Min.	Unit
Dimensions (L x W x H)	64 x 41.3 x 21.8	mm
Weight	35	g



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